NOTES

A NEW SPECIES OF *OCOTEA* (LAURACEAE) FROM NICARAGUA AND A NOTE ON *OCOTEA JORGE-ESCOBARII*

The *Ocotea* species in Central America form a difficult and incompletely known group. Reasons for this are that the genus is not clearly separated from *Nectandra* and *Phoebe*, that there is a scarcity of flowering collections, and that decisions by earlier botanists are sometimes difficult to understand and the species they described are hard to interpret.

During the preparation of the Lauraceae treatment for the *Flora de Nicaragua*, one undescribed *Ocotea* species was found and is here published. The affinities of the new species, *O. strigosa*, are not clear. It is so inconspicuous that one wonders how it was ever found. Several Nicaraguan collections are referred to *O. jorge-escobarii*, a species recently described from Honduras. An English description and an illustration of this poorly known species are provided.

Ocotea strigosa van der Werff, sp. nov. TYPE: Nicaragua. Matagalpa: W slope and summit of Cerro El Picacho, cloud and elfin forest, 1,350–1,590 m, *Stevens 22181* (holotype, MO; isotype, HNMN). Figure 1.

Frutex vel arbor parva. Ramuli teretes, glabri, sed apicibus strigis brunneis munitis. Gemma terminalis dense cinereo-sericea. Folia alterna, chartacea, 6–9 × 2–3.5 cm, ovata vel anguste ovata, basi obtusa vel acuta, apice acuminata; juvenalia strigosa, vetustiora glabrescentia; super opaca, venatione non manifesta; subtus venatione leviter elevata; domatiis carentia sed infrequenter in axillis venarum pilis erectis praedita. Nervi laterales utroque costae latere 3–6. Inflorescentiae axillares, foliis breviores, strigosae, ad 6 cm longae. Flores albi. Petala 6, aequalia, ca. 1.5 mm longa, extus basi strigosa, apice glabrescentia, intus glabra praeter apicem tepalorum interiorum papillosam. Stamina 9, 4-locellata, glabra, 6 exterioribus filamentis ca. 0.5 mm longis, antheris ca. 0.5 mm longis, apicibus truncatis locellis introrsis, 3 interioribus filamentis ca. 0.7 mm longis, antheris ca. 0.8 mm longis, locellis extrorsis; glandulae staminum interiorum magnae, breviter stipitatae, ca. 0.6 cm diametro; staminodia 3, ca. 0.7 mm longa, apice triangulari. Ovarium glabrum, ellipsoideum, ca. 0.8 mm longum. Fructus ellipsoideus, cupula brevi, ad 1 cm lata, sensim in pedicellum angustata.

Shrubs or small trees. Twigs terete, glabrous at maturity, but the tips with varying amounts of brown, appressed hairs, these sometimes giving a brown cast to the twigs. Terminal bud densely gray-sericeous. Leaves alternate, chartaceous, 6–9 × 2–3.5 cm, ovate or narrowly ovate, the base obtuse or acute, the apex acuminate; strigose above and below when young, becoming glabrescent; upper leaf surface smooth, the venation scarcely or not at all visible; lower leaf surface with venation slightly elevated; lateral veins 3–6 pairs; domatia generally lacking, although occasionally a few erect hairs present in the vein axils. Inflorescences axillary, shorter than the leaves, to 6 cm long, grayish strigose, paniculate. Flowers white; petals 6, equal, ellipsoid, ca. 1.5 mm long, the outside strigose near the base, less so towards the apex, the inside glabrous, but the inner 3 tepals with a papillose tip; stamens 9, 4-celled, the outer 6 with introrse cells, the filament ca. 0.5 mm long, the anther ca. 0.5 mm long, the cells arranged in 2 horizontal rows, apex of anther truncate; inner 3 stamens with extrorse cells, the filaments ca. 0.7 mm, the anther ca. 0.8 mm; staminal glands globose, short-stalked, ca. 0.6 mm diam.; staminodia 3, ca. 0.7 mm long, the head small, triangular. Ovary glabrous, ellipsoid, ca. 0.8 mm long; style robust,

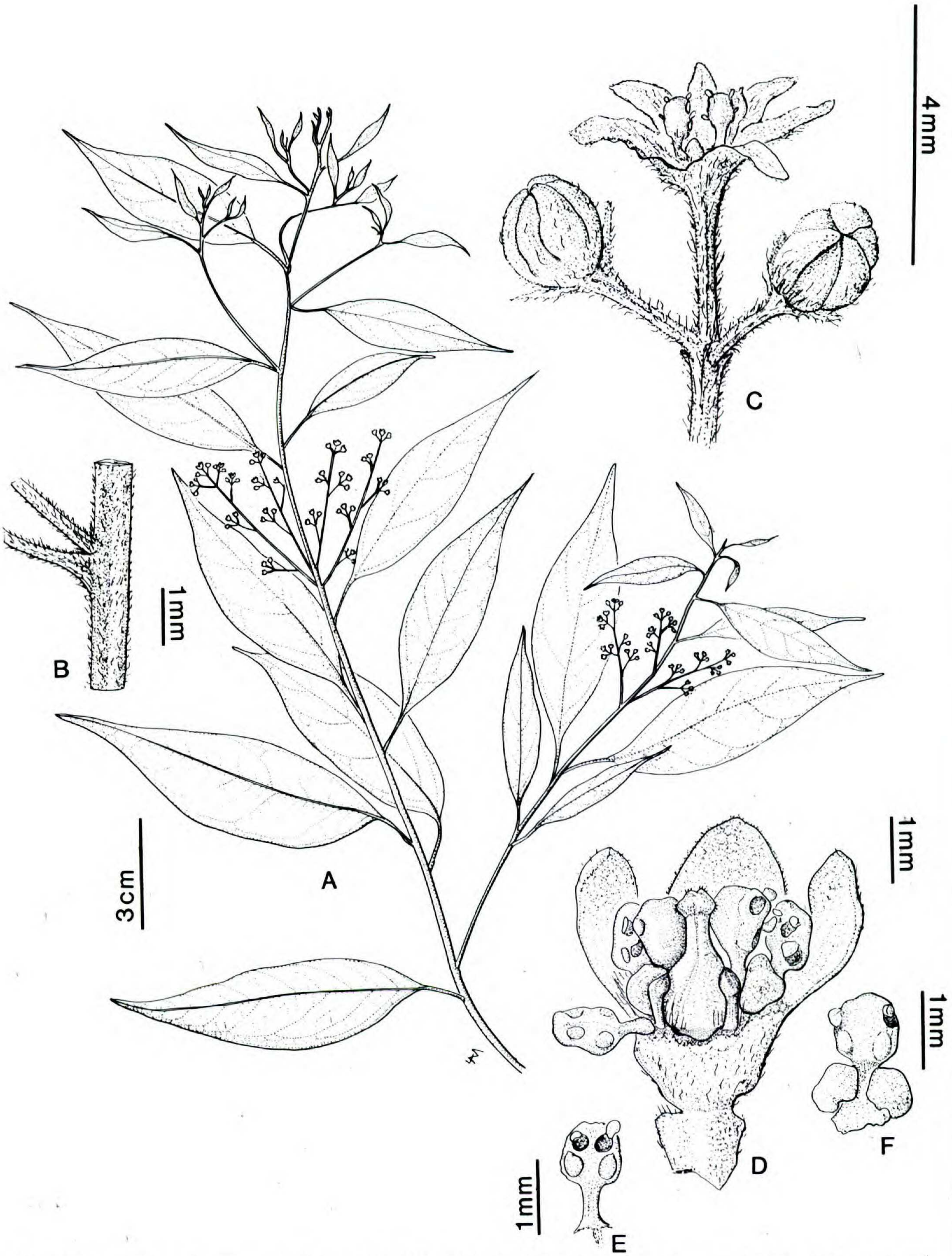

FIGURE 1. Ocotea strigosa. — *A. Habit.—B. Detail of twig, showing pubescence.—C. Detail of inflorescence.—D. Flower, tepals removed, showing stamens, staminal glands, staminodia, and ovary.—E. Outer stamen.—F. Inner stamen with basal glands.*

ca. 0.7 mm long, the stigma triangular. Fruit an ellipsoid berry, ca. 1 cm long, seated on a shallow cupule, ca. 1 cm wide, with a gradually thickened pedicel.

Paratypes. NICARAGUA. BOACO: entre Cerro Alegre y El Roblar, *Moreno 20201* (MO), *20212 B* (MO). JINOTEGA: Montaña Cuspire, *Moreno 8045* (MO); Fila Piedra Pelona, *Moreno 7794* (MO); Volcán Yali, *Moreno 7944, 7965* (both MO). MATAGALPA: El Picacho, *A. Molina R. 30512* (F, MO); Hacienda Santa Maria de Ostuma, *Tomlin 141, 142, 154, 156* (all MO).

Ocotea strigosa is known only from cloud forests between 1,000 and 1,600 m elevation in Nicaragua. One of the most inconspicuous *Ocotea* species in Central America, it can be recognized best by its strigose pubescence and acuminate leaves. Domatia are generally lacking, but occasionally some erect hairs can be found in the axils of the lateral veins. Some leaves of *Stevens 22181* have minute, insect-built cocoons in the vein axils, which are partly covered by stiff hairs. This collection also has a stronger raised reticulation on the lower leaf surface than the other collections.

Ocotea is a difficult genus, not always clearly separated from *Nectandra* and *Phoebe*, and it includes several poorly known species based on incomplete specimens. In Allen's (1945) *Ocotea* treatment of the Central American Lauraceae, *O. strigosa* keys to *O. effusa* (Meissner) Hemsley or *O. klotzschiana* (Nees) Hemsley, both known from Mexico and adjacent areas. *Ocotea strigosa* can be separated from those species by its strigose pubescence, ovate leaves (widest below the middle), and absence of domatia. In Allen's (1945) *Phoebe* treatment, it keys to the vicinity of *P. mollicella* Blake or *P. acuminatissima* Lundell. The first can be immediately recognized by its yellowish tomentum and is probably not closely related. *Phoebe acuminatissima* differs from *O. strigosa* by its narrower leaves, domatia in the lower vein axils, raised reticulation on the upper leaf surface, papillose anther tips, and denser pubescence consisting of shorter hairs. The papillose anthers and tepals and the glaucous cast of the flowers suggest that *P. acuminatissima* does not belong in *Phoebe* but might better be placed in *Ocotea* near the group of *O. helicterifolia* (Meissner) Hemsley.

Ocotea jorge-escobarii Nelson, Ceiba 25: 173. 1984. Figure 2.

Ocotea jorge-escobarii Nelson was recently described and was only known from Honduras. Because the description and discussion of this species were brief, its identity remained problematical. During preparation of the treatment of the Lauraceae for the *Flora de Nicaragua*, several *Ocotea* collections from cloud forests in Nicaragua were found to represent an unknown species. A search in the MO herbarium produced several collections from Honduras, distributed as *Phoebe* species, which belonged in this unknown species. Because one of these collections (*Escobar 247*) was cited as a paratype of *O. jorge-escobarii*, and the specimens agree with the brief description, I place the Nicaraguan collections in *O. jorge-escobarii*. I present here an English description and an illustration of this species.

Trees, to 20 m tall. Twigs ridged or terete, glabrous except for a few appressed hairs near the tip, the terminal bud white-sericeous pubescent. Leaves alternate, glabrous, evenly distributed along the twigs, firmly chartaceous or coriaceous, 10–20 × 4–8 cm, slightly obovate or narrowly obovate, widest above the middle, mature leaves drying pale green, the base cuneate-attenuate, the apex obtuse or slightly acute, the venation scarcely visible on upper surface but visible and slightly raised on lower surface; lateral veins 6–9 pairs; pit domatia present along the midvein and along lateral veins, these without hairs; margin thickened, greenish and often slightly inrolled. Inflorescences axillary, glabrous or with few hairs near base, shorter than the leaves, ca. 6 cm long; flowers glabrous, greenish white; tepals 6, equal, ca. 2 mm long, broadly elliptic; stamens 4-celled, the outer 6 ca. 2 mm long, glabrous, except for some hairs at base of filaments, with introrse cells; inner 3 stamens ca. 2 mm long, the cells extrorse, the filaments glabrous but base of anther densely

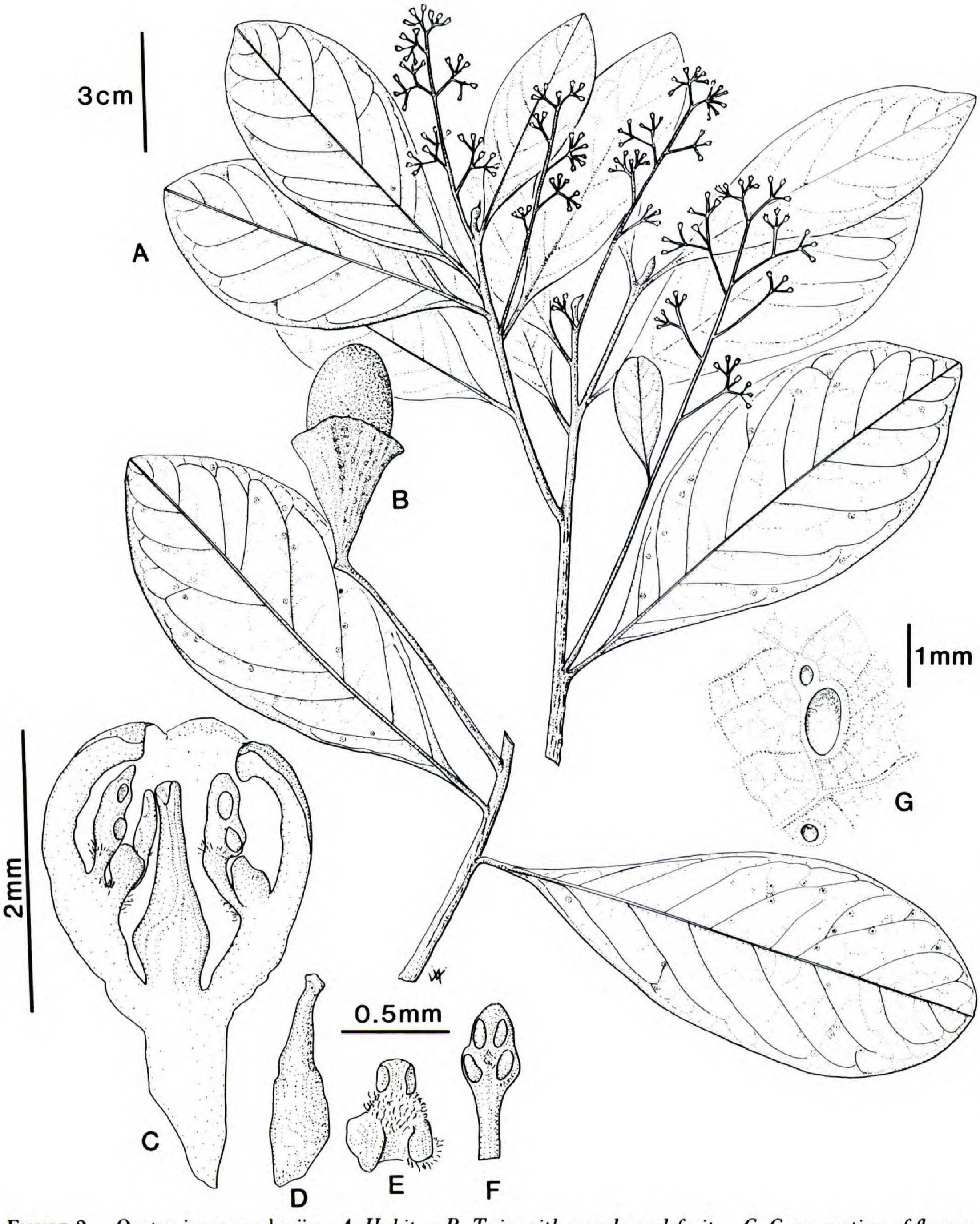

FIGURE 2. Ocotea jorge-escobarii.—*A. Habit.—B. Twig with cupule and fruit.—C. Cross section of flower.—D. Ovary.—E. Inner stamen with basal glands.—F. Outer stamen.—G. Detail of leaf, showing pitlike domatia.*

pubescent on the side facing the ovary, staminodia lacking; staminal glands large, ca. 0.8 mm diam.; floral tube ca. 1 mm deep, glabrous except for a ring of hairs at the upper margin; ovary glabrous, ellipsoid, gradually narrowed into style, the ovary and style ca. 2 mm long. Fruit an ellipsoid berry, ca. 3 cm long, 2 cm wide, cupule a large, thick cup, ca. 2.5 cm wide at rim and 1 cm deep, with many small warts and a few longitudinal ribs, which may be a drying artifact.

Specimens seen. HONDURAS. OLANCHO: Montaña Los Zapotes, *Mejia 138* (MO); same locality, *Sosa 191* (MO); same locality, *Alverado 130* (MO); same locality, *Escobar*

247 (MO); same locality, *Mejia Orduñez 146* (MO). NICARAGUA. MATAGALPA: El Arenal, between Aranjuez and Santa Martha, *A. Molina 20345* (F, MO). JINOTEGA: Ocotillo near Sta. Lasthenia, *L. Williams et al. 27783, 20794* (F); Sta. Maria de Ostuma, *L. Williams et al. 23435* (F). ZELAYA: Cerro El Hormiguero, *Pipoly 5166* (MO); Cerro La Pimienta, *Grijalva 363* (MO).

Ocotea jorge-escobarii, known only from cloud forests in Nicaragua and Honduras between 1,000 and 1,600 m elevation, is closely related to such species as *O. meziana* Allen from Panama and Costa Rica, *O. barbatula* Lundell from Guatemala, *O. viridiflora* Lundell from Chiriquí, Panama, and possibly to other species, such as *O. laetevirens* Standley & Steyerm., *O. verapazensis* Standley & Steyerm., and *O. eucymosa* Lundell. Characters shared by most species in this group are pale green drying leaves and the presence of pit domatia away from the midrib. The new species can be recognized easily by its leaf shape (widest above the middle), unusually large cupules, and thickened, slightly inrolled leaf margin. Specimens have been annotated earlier as *O. meziana* vel aff., *O.* aff. *laetevirens*, and *O. veraguensis* and may be found in additional herbaria under these names. The material from Honduras was all annotated as *Phoebe* species. Nelson compares this species with *Ocotea bernoulliana* Mez; this species differs in its dark green drying leaves and in its inflorescences, which are longer than the leaves. *Ocotea bernoulliana* is a rarely collected species, to me known only with certainty from the type.

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Literature Cited

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